REMARKS

Reconsideration of the application is requested in view of the modifications above and the remarks below. Applicants acknowledge the conditional allowance of Claims 23-26. Applicants have modified Claim 8. Support for Claim 8 can be found on page 7, lines 4-11 of the specification.

1. Rejection Under 35 USC 112, first paragraph

The Office Action rejected Claims 8 and 17-27 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1-12 of U.S. Pat. No. 6,642,302. In view of the modifications above, Applicants request the USPTO to reconsider whether or not the rejection is warranted.

4. Rejection Under 35 USC 103

A. Rejection of Claims 8, 17-22 and 27 Under 35 USC 103 Over WO 96/30425 (Martz)

The rejection of Claims 8, 17-22 and 27 under 35 USC 103 over Martz should be withdrawn. It is well settled that to establish a *prima facie* case of obviousness, the USPTO must satisfy all of the following requirements. First, the prior art relied upon, coupled with the knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or to combine references. *In re Fine*, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). Second, the proposed modification must have had a reasonable expectation of success, as determined from the vantage point of one of ordinary skill in the art at the time the invention was made. *Amgen v. Chugai Pharmaceutical Co.* 18 USPQ 2d 1016, 1023 (Fed Cir, 1991), *cert. denied* 502 U.S. 856 (1991). Third, the prior art reference or combination of references must teach or suggest all of the limitations of the claims. *In re Wilson*, 165 USPQ 494, 496, (CCPA 1970).

Applicants' invention relates to a water-soluble or water-dispersible polyurethane comprising a reaction product of

A) at least one polyether a1) having an average functionality of ≥ 3 and at

least one urethane group-containing polyether polyol a2) having an average functionality of ≥ 4,

B) at least one C_6-C_{22} monoalcohol,

C) at least one (cyclo)aliphatic and/or aromatic diisocyanate

D) a C_2-C_{18}-oxime and/or diamine with 2 to 18 carbon atoms,

E) optionally at least one C_4-C_{18} monoisocyanate,

F) optionally at least one polyisocyanate having an average functionality of> 2. The starting NCO/OH equivalent ratio is between 0.5:1 to 1.2:1. In view of the modifications above, Applicants have expressly indicated that the the production of polyether alcohol mixture A) containing polyethers a1) and urethane group-containing polyethers a2) has been carried out by the partial reaction of polyethers a1) with at least one organic polyisocyanate having a functionality of ≥ 2, and wherein up to 50 mole % of polyethers are reacted with isocyanates. In another embodiment, Applicants' invention relates to an aqueous paint system, adhesive and another aqueous formulation comprising the polyurethane of Claim 8.

Martz teaches an aqueous two-component polyisocyanate coating composition that is based on an essentially isocyanate-free emulsifier that comprises the reaction product of: (i) an isocyanate and (ii) a member selected from the group consisting of: hydroxy functional polyalkyl ethers containing at least five ethylene oxide, alcohols different from the polyalkyl ethers, amine compounds, and combinations thereof (Abstract). The hydroxy functional polyalkyl ether is provided in a quantity sufficient to react at least one equivalent of isocyanate groups in polyisocyanate (i), and the total amounts of reactants (ii) are sufficients to react all of the isocyanate groups of the polyisocyanate (i).

One of ordinary skill in the art following the teachings of Martz would not have been motivated to modify Martz and make Applicants' invention. Martz' aqueous two-component polyisocyanate coating composition (and the other teachings Martz provides) would not have motivated one of ordinary skilled in the art to modify Martz and Applicants' water-soluble or water-dispersible polyurethane comprising a reaction product of A) at least one polyether a1) at least one urethane group-containing polyether polyol a2) having an average functionality of ≥ 4, B) at least one

C_8-C_{22} monoalcohol, C) at least one (cyclo)aliphatic and/or aromatic diisocyanate D) a C_2-C_{18}-oxime and/or diamine with 2 to 18 carbon atoms, such that the starting NCO/OH equivalent ratio is between 0.5:1 to 1.2:1 and that the production of polyether alcohol mixture A) containing polyethers a1) and urethane group-containing polyethers a2) has been carried out by the partial reaction of polyethers a1) with at least one organic polyisocyanate having a functionality of ≥ 2, and wherein up to 50 mole % of polyethers are reacted with isocyanates. Martz does not have teachings that would have motivated one of ordinary skill in the art to modify Martz and make Applicants' aqueous paint system, adhesive and another aqueous formulation comprising the polyurethane of Claim 8. Reconsideration is requested.

B. Relection of Claims 8, 17-22 and 27 Under 35 USC 103 Over U.S. Pat. No. 5,023,309 (Kruse)

The rejection of Claims 8, 17-22 and 27 under 35 USC 103 over Kruse should be withdrawn. Kruse teaches a water dispersible, modified polyurethane which is the reaction product of polyisocyanate, polyether polyol, modifying agent containing at least one pendant hydrophobic group and at least two active hydrogen moieties and capping agent (See Abstract). The modified polyurethane may also include a second type of modifying agent which does not have a pendant hydrophobic group. The modified polyurethane can be prepared by reacting the polyisocyanate and the polyether polyol and then adding the capping agent and finally the modifying agent with or without the second modifying agent. The modified polyurethane resists microbial attack, exhibits superior efficiency in thickening aqueous compositions under high shear conditions and achieves acceptable sag and leveling.

One of ordinary skill in the art following Kruse would not have been motivated to modify Kruse and make Applicants' invention. Kruse's water dispersible, modified polyurethane (and the other teachings Kruse provides) would not have motivated one of ordinary skilled in the art to modify Kruse and Applicants' water-soluble or water-dispersible polyurethane comprising a reaction product of A) at least one polyether a1) at least one urethane group-containing polyether polyol a2) having an average functionality of ≥ 4, B) at least one C_8-C_{22} monoalcohol, C) at least one

(cyclo)aliphatic and/or aromatic diisocyanate D) a C_2-C_{18}-oxime and/or diamine with 2 to 18 carbon atoms, such that the starting NCO/OH equivalent ratio is between 0.5:1 to 1.2:1 and that the production of polyether alcohol mixture A) containing polyethers a1) and urethane group-containing polyethers a2) has been carried out by the partial reaction of polyethers a1) with at least one organic polyisocyanate having a functionality of ≥ 2, and wherein up to 50 mole % of polyethers are reacted with isocyanates. Kruse does not have teachings that would have motivated one of ordinary skill in the art to modify Kruse and make Applicants' aqueous paint system, adhesive and another aqueous formulation comprising the polyurethane of Claim 8. Reconsideration is requested.

In view of the foregoing remarks and amendments, Applicants earnestly request the allowance of all Claims.

Respectfully submitted,

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